

REMARKS

The present application has been reviewed in light of the Office Action dated January 21, 2009. Claims 1-22, 28, 29, and 32-35 are presented for examination, of which Claims 1, 12, 13, 19, and 21 are in independent form. Claims 1-19, 21, 22, 28, 32, 33, and 35 have been amended to define aspects of Applicant's invention more clearly. Favorable reconsideration is requested.

The Office Action states that Claims 1, 2, 9, 13, 19, and 21 are objected to because the limitation "extracting a content description depending on the abstract constraints associated with the multimedia document" is ambiguous. In response, Applicant has carefully reviewed and amended Claims 1, 12, 13, 19, and 21, as deemed necessary, with special attention to the points raised in section 8 of the Office Action. More particularly, Claims 1, 12, 13, 19, and 21 have been amended to recited "extracting, from the binary multimedia document, a content description of the binary multimedia document, characteristics of the extracted content description being dependent on the abstract constraints extracted from the service description document," which Applicant respectfully submits is not ambiguous. It is believed that the objections to the claims have been obviated, and their withdrawal is therefore respectfully requested.

The Office Action states that Claims 1-11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over a document entitled "Web Services Description Language (WSDL) V1.2" (*Chinnici et al.*) in view of U.S. Patent Application Publication No. 2003/0051216 (*Hsu et al.*), and further in view of a document entitled "An Overview of the MPEG-7 Description Definition Language (DDL) Proposals" (*Hunter et al.*); that Claims 12, 19, 20, and 29 are

rejected under § 103(a) as being unpatentable over *Chinnici et al.* in view of *Hsu et al.*, and further in view of U.S. Patent Application Publication No. 2003/0028559 (*Moreau*) and U.S. Patent Application Publication No. 2004/0117798 (*Newman et al.*); that Claims 13, 21, 22, and 28 are rejected under § 103(a) as being unpatentable over *Moreau* in view of *Hsu et al.*, and further in view of *Chinnici et al.*; that Claims 14-18 are rejected under § 103(a) as being unpatentable over *Moreau, Hsu et al.*, and *Chinnici et al.* in view of *Hunter et al.*; that Claims 32-34 are rejected under § 103(a) as being unpatentable over *Chinnici et al., Hsu et al.*, and *Hunter et al.* in view of U.S. Patent Application Publication No. 2004/0205573 (*Carlson et al.*); and that Claim 35 is rejected under § 103(a) as being unpatentable over *Moreau, Hsu et al.*, and *Chinnici et al.* in view of U.S. Patent Application Publication No. 2003/0031260 (*Tabatabai et al.*). For at least the following reasons, Applicant submits that independent Claims 1, 12, 13, 19, and 21, together with the claims dependent therefrom, are patentably distinct from the cited prior art.

The aspect of the present invention set forth in Claim 1 is directed to a computer-readable storage medium storing control logic for causing a computer to implement a method of offering a service, described in a service description document, in a communication network. The method includes: (1) extracting, from the service description document, a first abstract part adapted to describe at least one message exchanged over the communication network when the service is implemented, wherein the first abstract part includes a description of abstract constraints associated with a binary multimedia document, (2) extracting, from the service description document, a second concrete part adapted to describe information relating to transmission of the messages over the communication network, (3) extracting, from the binary

multimedia document, a content description of the binary multimedia document, characteristics of the extracted content description being dependent on the abstract constraints extracted from the service document, (4) comparing the content description and the description of the abstract constraints extracted from the service description document, and (5) transmitting an error message, if the content description does not satisfy the abstract constraints.

A notable feature of Claim 1 is that the content description of the binary multimedia document is extracted from the binary multimedia document, where characteristics of the particular content description that is extracted depend on the abstract constraints that have been extracted from the service document. That is, the content description includes characteristics describing contents of the binary multimedia document, wherein the particular content description characteristics extracted from the binary multimedia document are dependent on the abstract constraints that have been extracted from the service description document. By virtue of this feature, a tool can be provided that takes as inputs a binary multimedia document and an MPEG-7 document, and validates the binary multimedia document based on abstract constraints included in the MPEG-7 document, for example.¹ That is, a binary multimedia document, which includes an MPEG-7 description, and a WSDL document can be provided, wherein the MPEG-7 description includes a description of abstract constraints having the same characteristics as the abstract constraints identified in the WSDL document so that such characteristics can be compared to validate the binary multimedia document.

For a given binary multimedia document, the specification discusses two ways in

¹/ Any examples presented herein are intended for illustrative purposes and are not to be construed to limit the scope of the claims.

which this feature can be implemented (*see* FIG. 1 and page 20, line 27, to page 22, line 5). In the first case, the binary multimedia document contains an associated MPEG-7 description. In this case, it is necessary to extract from the MPEG-7 description only the characteristics (*i.e.*, descriptors) corresponding to the abstract constraints in a service description document. If not all required descriptors are present in the MPEG-7 description, missing descriptors can be added to the MPEG-7 description. In the second case, the binary multimedia document does not have an associated MPEG-7 description. In this case, characteristics corresponding to the abstract constraints can be determined from the binary multimedia document itself. For example, if the binary multimedia document includes a digital image and the abstract constraints in the service description document include “height” and “width,” the actual height and width of the digital image, which typically are specified in a header of the digital image, can be extracted from the binary multimedia document.

Chinnici et al. is understood to relate to a model for describing web services (*see Abstract*). *Chinnici et al.* discusses that, when an Extensible Markup Language (XML) Schema is used, a symbol space may exist for key constraints (*see* paragraph 32, section 2.13). *Chinnici et al.* also discusses that a Web Services Description Language (WSDL) may be used with other description languages to describe message parts and their constraints (*see* paragraph 36, section 3.2). Nothing has been found in *Chinnici et al.* that is believed to teach or suggest that constraints are associated with a *binary* multimedia document, much less that particular constraints, which depend on constraints that have been extracted from a service description document, are extracted from a *binary* multimedia document.

Hsu et al. is understood to relate to a system for automatic validation of

multimedia product manuals (*see* paragraph 2). Apparently, *Hsu et al.* teaches that a Product Document Constraint Specification Language (PDCSL) is provided to represent various types of documentation guidelines as document constraints that are enforced within documents (*see* paragraph 5). Each document constraint identifies a set of document objects, and specifies a logical expression that is to be evaluated for each instance of the document objects (*see* paragraph 5). A Document Constraint Analyzer takes as input a set of document files and a document constraint specification file, extracts and examines information associated with the document objects, and evaluates the logical expressions specified in the document constraints (*see* paragraph 5). Nothing has been found in *Hsu et al.* that is believed to teach or suggest that particular constraints, which depend on constraints that have been extracted from a service description document, are extracted from a *binary* multimedia document.

Hunter et al. is understood to relate to proposals for an MPEG-7 document Description Definition Language (DDL) (*see* Abstract). Nothing has been found in *Hunter et al.* that is believed to remedy the deficiencies of *Chinnici et al.* and *Hsu et al.* identified above.

Accordingly, Applicant submits that a combination of *Chinnici et al.*, *Hsu et al.*, and *Hunter et al.*, assuming such combination would even be permissible, would fail to teach or suggest a method that includes “extracting a content description of the binary multimedia document, characteristics of the extracted content description being dependent on the abstract constraints extracted from the service description document,” as recited in Claim 1.

Accordingly, Applicant submits that Claim 1 is patentable over *Chinnici et al.*, *Hsu et al.*, and *Hunter et al.*, and respectfully requests withdrawal of the rejection under 35 U.S.C. § 103(a).

A review of the other prior art of record, including *Moreau, Newman et al.*,

Carlson et al., and *Tabatabai et al.*, has failed to reveal anything that is believed to cure the deficiencies of *Chinnici et al.*, *Hsu et al.*, and *Hunter et al.* identified above.

Independent Claims 12, 13, 19, and 21 include a feature similar to that of Claim 1 and also are believed to be patentable for at least the reasons discussed above. The other rejected claims in the present application depend from one or another of Claims 1, 12, 13, 19, and 21 and are submitted to be patentable for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and an early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,

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